

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claims 1 – 11 (cancelled).

12. (Previously presented) A photonic buoy system comprising:
  - a buoy including a lengthy hull with a ballast portion of the hull which resides below the waterline and a top portion of the hull which is disposed above the waterline;
  - an optical bench including an imager within the top portion of the hull, the optical bench configured to provide a panoramic view of the horizon;
  - a workstation remote from the hull, responsive to the optical bench, and including a display and image stabilization circuitry for presenting a composite image of the horizon on the display; and
  - a transmission cable interconnecting the optical bench and the workstation.
13. (Original) The photonic buoy system of claim 12 in which the ballast portion of the hull includes a first spool of transmission cable.
14. (Original) The photonic buoy system of claim 12 in which the workstation is located on board a submarine which includes a second spool of the transmission cable.
15. (Original) The photonic buoy system of claim 12 in which the image stabilization

circuitry includes frame rate image processing software and hardware.

16. (Previously presented) The photonic buoy system of claim 12 in which the optical bench includes a conical mirror inside the top portion of the hull surrounded by a transparent wall and the imager vertically oriented and aimed at the conical mirror.

17. (Previously presented) The photonic buoy system of claim 12 in which the optical bench includes a conical prism sealed with respect to the top of the hull and the imager vertically oriented and aimed at the conical prism.

18. (Original) The photonic buoy system of claims 16 or 17 in which the imager is a CCD camera.

19. (Original) The photonic buoy system of claims 16 or 17 in which the imager is an infrared camera.

20. (Original) The photonic buoy system of claim 12 further including a sensor in the hull which detects the attitude of the buoy.

21. (Original) The photonic buoy system of claims 16 or 17 in which the transmission cable includes optical fibers and further including a converter in the buoy responsive to the imager which converts image data into optical data for transmission over the optical fibers of the transmission cable.

22. (Original) The photonic buoy system of claim 12 in which the hull includes a self scuttling plug therein.

23. (Original) The photonic buoy system of claim 12 in which the hull has a diameter compatible with a launcher of a submarine.

24. (Original) The photonic buoy system of claim 12 in which the ballast portion includes a weight disposed therein.

Claims 25 – 33 (cancelled).

34. (Previously presented) A photonic buoy system comprising:

- a buoy including a lengthy hull with a ballast portion of the hull which resides below the waterline and a top portion of the hull which is disposed above the waterline;
- an optical bench including an imager within the top portion of the hull, the optical bench configured to provide a panoramic view of the horizon; and
- a workstation remote from the hull, responsive to the optical bench, and including a display and image stabilization circuitry for presenting a composite image of the horizon on the display.